

Supplemental Amendment  
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### REMARKS

Attached hereto is a marked-up version of the changes made to the specification by the current amendment. This amendment replaces the new paragraph for page 1 which was added in the Amendment of January 22, 2002, since only the portion of the original paragraph from page 1 was replaced. Accordingly, since the lines on page 2 of the paragraph beginning on page 1, were not previously cancelled but are not properly part of the previously added paragraph, the current amendment corrects this error. No new matter is added.

The attached Appendix is captioned "Version with markings to show changes made".

Accordingly, for the reasons previously presented the subject application is believed to be in condition for allowance.

Respectfully submitted,

PILLSBURY WINTHROP LLP

By: Richard A. Steinberg

Richard A. Steinberg

Reg. No.: 26,588

Direct No.: (703) 905-2039

Paul L. Sharer

Registration No. 36,004

Direct No. (703) 905-2180

PLS/RAS  
1600 Tysons Boulevard  
McLean, VA 22102  
(703) 905-2000 Telephone  
(703) 905-2500 Facsimile


Attorney Reference: 081935/0266300  
Enclosures: Appendix

*PC*

**APPENDIX: VERSION WITH MARKINGS TO SHOW CHANGES MADE**

The paragraph starting on line 11 of page 1 (added by the Amendment filed on January 22, 2002) and extending to page 2, line 20, is replaced by the following new and complete paragraph:

--In patients with kidney failure on haemodialysis (of whom there are 6,000,000 world wide), phosphate concentrations in the blood plasma can rise dramatically and such hyperphosphataemia can result in calcium phosphate deposition in soft tissue. Currently, the plasma phosphate levels are reduced by oral intake of inorganic and organic phosphate binders. The most common treatment in the UK is with aluminum hydroxide gel ("ALUDROX®" at 4 g/day) which forms an insoluble aluminum phosphate. However, this results in further toxic complications due to Al accumulation, eg reduction in haemoglobin production, impairment in natural repair and production of bone and possible impairment of neurological/cognitive function. Improvements in phosphate binding capacity as compared with aluminum hydroxide gel have been achieved with other aluminum compounds such as microcrystalline aluminum oxide hydroxide (boehmite) and certain hydrotalcites have been made; Ookubo et al, Journal Pharmaceutical Sciences (November 1992), 81(11), 1139-1140. However, such compounds still result in an intolerable amount of aluminum accumulation in renal failure patients. It is also known to use calcium compounds having poor solubility at pH 6-9, eg calcium carbonate, hydroxide, oxide and/or sulphate in a medicinal form[.] resistant to gastric juices. However, it is known that, for example, with calcium carbonate, a large dosage is required because of its relatively low in vivo capacity for phosphate removal, such large dosages also being difficult to administer. This can cause further complications associated with high calcium intake. It has also been proposed (WO-A-92/01458) to control serum phosphate levels in patients suffering from or predisposed to hyperphosphataemia by contacting ingested phosphate with an oxy-iron compound selected from ferric oxides, oxy-hydroxides and hydroxides. Similarly, Spengler et al, Nephrol. Dial. Transplant. (1996), 11, 808-812, suggests treatment of hyperphosphataemia with a complex of iron (III) oxide-hydroxide modified dextran. However, in the tests conducted, extremely high dosage amounts to animals were given. Moreover, many inorganic preparations are efficient phosphate binders only over a limited pH range, especially an acid pH range of about 3-5.



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Such current phosphate binders effective at pH3 would not necessarily bind as effectively at higher pH, eg > 7, which obtain in the lower tract, eg duodenum and below, and where at least some of the binding of phosphate may take place. Moreover, particularly alkaline binders could buffer the stomach pH up to a high level at which they would not have a phosphate binding capacity.--

*End of Appendix*